

What is claimed is:

1. Hydrolysates and/or condensates of epoxy- and silane-functional
oligomers and polymers, preparable by hydrolyzing and/or
5 condensing at least one oligomer and/or polymer (A) containing at
least one epoxide group (a1) and at least one hydrolyzable silane
group (a2).
2. Hydrolysates and/or condensates as claimed in claim 1, wherein
10 the oligomer and/or polymer (A) is condensable by means of a
sol-gel process.
3. Hydrolysates and/or condensates as claimed in claim 1 or 2,
preparable by hydrolysis and hydrolysis and/or condensation of the
15 oligomer and/or polymer (A).
4. Hydrolysates and/or condensates as claimed in any one of claims 1
to 3, preparable in the presence of at least one kind of
nanoparticles.
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5. Hydrolysates and/or condensates as claimed in any one of claims 1
to 4, wherein the oligomer and the polymer (A) are selected from
the group of the copolymers of olefinically unsaturated monomers.
- 25 6. Hydrolysates and/or condensates as claimed in claim 5, wherein
the oligomer and the polymer (A) are (meth)acrylate copolymers.
7. Hydrolysates and/or condensates as claimed in any one of claims 1
to 6, wherein the molar ratio of epoxide groups (a1) to hydrolyzable

silane groups (a2) in an oligomer or polymer (A) is from 1.5 : 1 to 1 : 1.5.

- 8 Hydrolysates and/or condensates as claimed in any one of claims 1
5 to 7, wherein the hydrolyzable silane groups (a2) have the general formula II:



10 in which the indices and variables are defined as follows:

R is a monovalent hydrolyzable atom or monovalent hydrolyzable group;

15 R^1 is a monovalent nonhydrolyzable radical;

m is an integer from 1 to 3, and

n is 0 or 1 or 2

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with the proviso that $m + n = 3$.

- 9 Hydrolysates and/or condensates as claimed in claim 8, wherein
the monovalent hydrolyzable atom R is selected from the group
25 consisting of hydrogen, fluorine, chlorine, bromine, and iodine and
the monovalent hydrolyzable group R is selected from the group
consisting of hydroxyl groups, amino groups $-\text{NH}_2$, and groups of
the general formula III:

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in which the variables are defined as follows:

- 5 X is oxygen atom, sulfur atom, carbonyl group, carboxyl group, thiocarboxylic S-ester group, thiocarboxylic O-ester group or amino group -NH- or -NR¹-,
- 10 R¹ is a monovalent organic radical comprising or consisting of at least one group selected from the group consisting of substituted and unsubstituted, branched and unbranched, cyclic and noncyclic alkyl, alkenyl, and alkynyl groups and also substituted and unsubstituted aryl groups.
- 15 10. Hydrolysates and/or condensates as claimed in any one of claims 1 to 9, wherein the oligomer and the polymer (A) are preparable by copolymerizing at least one monomer (a1) containing at least one epoxide group (a1) with at least one monomer (a2) containing at least one hydrolyzable silane group (a2).
- 20 11. Hydrolysates and/or condensates as claimed in claim 10, wherein the monomers (a1) and (a2) are copolymerizable with at least one further monomer (a3) other than (a1) and (a2).
- 25 12. Hydrolysates and/or condensates as claimed in claim 10 or 11, wherein the monomers (a1), (a2), and (a3) contain at least one olefinically unsaturated group.
- 30 13. Hydrolysates and/or condensates as claimed in any one of claims 10 to 12, wherein the olefinically unsaturated groups are methacrylate and/or acrylate groups.

14. Hydrolysates and/or condensates as claimed in any one of claims
10 to 13, wherein the oligomer and the polymer (A) are preparable
by free-radical copolymerization of the monomers (a1), (a2), and
(a3).
15. Hydrolysates and/or condensates as claimed in any one of claims
10 to 14, wherein the monomer ratio of monomer (a1) to monomer
(a2) is from 1.5 : 1 to 1 : 1.5.
16. A process for preparing the hydrolysates and/or condensates as
claimed in any one of claims 1 to 15, which comprises hydrolyzing
and/or condensing the oligomers and/or polymers (A) at a pH < 7.
17. The process as claimed in claim 16, wherein the hydrolysis and/or
condensation is conducted in the presence of an organic acid.
18. The process as claimed in claim 16 or 17, wherein the hydrolysis
and/or condensation is conducted at from -10 to +50°C.
19. The use of the hydrolysates and/or condensates as claimed in any
one of claims 1 to 15 or of the hydrolysates and/or condensates
prepared by the process as claimed in any one of claims 16 to 18
as curable compositions or for preparing them.
20. The use as claimed in claim 19, wherein cationically stabilized
nanoparticles are used as catalysts for curing the curable
compositions.

21. A (meth)acrylate copolymer (A) containing lateral and/or terminal epoxide groups (a1) and lateral and/or terminal hydrolyzable silane groups (a2) of the general formula II:



in which the indices and variables are as defined above, in a molar ratio (a1) : (a2) of from 1.5 : 1 to 1 : 1.5, preferably 1.3 : 1 to 1 : 1.3, and in particular from 1.1 : 1 to 1 : 1.1.

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